AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Please cancel claims 1-10 and add the following new claims:

11. (New) An object detection system comprising:

a radar detection unit that detects an object using a radar,

an image detection unit that detects an object using an image, and

a collating unit that performs collation between a detection result of the radar detection unit and a detection result of the image detection unit so as to determine whether an identical object is detected by the radar detection unit and the image detection unit; wherein

the collating unit performs a first collation between an object detected by the radar detection unit in a present collation and an object that has been determined as being detected by the radar detection unit and the image detection unit in a previous collation; performs a second collation between an object detected by the image detection unit in a present collation and an object that has been determined as being detected by the radar detection unit and the image detection unit in the previous collation when it is determined that the identical object is detected by the radar detection unit and the image detection unit in the previous collation; and determines whether the radar detection unit and the image detection unit detect the identical object based on the first and the second collations.

12. (New) The object detection system according to claim 11, wherein the collating unit performs a third collation between objects detected by the radar detection unit in the present detection, which are obtained by excluding the object determined as have been detected by the radar detection unit and the image detection unit, and objects detected by the image detection unit in the present detection, which are obtained by excluding the object determined as having been detected by the radar detection unit and the image detection unit such that it is determined whether the identical object is detected by the radar detection unit and the image detection unit.

13. (New) The object detection system according to claim 12, wherein the collating unit determines all fusion objects in the present collation by adding the number of fusion objects determined based on the first and second collation to that of the fusion objects determined based on the third collation to determine all fusion objects in the present collation, and the collating unit determines all independent objects in the present collation by excluding the fusion objects from the objects detected by the radar detection unit or the image detection unit in the present detection.

14. (New) The object detection system according to claim 11, wherein the radar detection unit comprises at least one of a millimeter-wave radar and a laser radar.

15. (New) The object detection system according to claim 12, wherein the radar detection unit comprises at least one of a millimeter-wave radar and a laser radar.

16. (New) The object detection system according to claim 13, wherein the radar detection unit comprises at least one of a millimeter-wave radar and a laser radar.

17. (New) The object detection system according to claim 11, wherein the image detection unit comprises a stereo camera.

18. (New) The object detection system according to claim 12, wherein the image detection unit comprises a stereo camera.

19. (New) The object detection system according to claim 13, wherein the image detection unit comprises a stereo camera.

20. (New) The object detection system according to claim 14, wherein the image detection unit comprises a stereo camera.

21. (New) A method of detecting an object in a system including

a radar detection unit that detects an object using a radar;

an image detection unit that detects an object using an image; and

a collating unit that performs collation between a detection result of the radar detection unit and a detection result of the image detection unit so as to determine whether an identical object is detected by the radar detection unit and the image detection unit, the method comprising the steps of:

performing a first collation between an object detected by the radar detection unit in a present collation and an object that has been determined as being detected by the radar detection unit and the image detection unit in a previous collation;

performing a second collation between an object detected by the image detection unit in a present collation and an object that has been determined as being detected by the radar detection unit and the image detection unit in the previous collation when it is determined that the identical object is detected by the radar detection unit and the image detection unit in the previous collation; and

determining whether the radar detection unit and the image detection unit detects the identical object based on the first and the second collations.

22. (New) The method according to claim 21, further comprising the step of

performing a third collation between objects detected by the radar detection unit in the present detection, which are obtained by excluding the object determined as having been detected by the radar detection unit and the image detection unit, and objects detected by the image detection unit in the present detection, which are obtained by excluding the object determined as having been detected by the radar detection unit and the image detection unit such that it is determined whether the identical object is detected by the radar detection unit and the image detection unit.

23. (New) The method according to claim 22, further comprising the steps of

adding the number of fusion objects determined based on the first and second

collations to that of the fusion objects determined based on the third collation to determine all fusion objects in the present collation; and

excluding the fusion objects from the objects detected by the radar detection unit or the image detection unit in the present detection to determine all independent objects in the present collation.

24. (New) The method according to claim 21, wherein the radar detection unit comprises at least one of a millimeter-wave radar and a laser radar.

25. (New) The method according to claim 22, wherein the radar detection unit comprises at least one of a millimeter-wave radar and a laser radar.

26. (New) The method according to 23, wherein the radar detection unit comprises at least one of a millimeter-wave radar and a laser radar.

27. (New) The method according to claim 21, wherein the image detection unit comprises a stereo camera.

28. (New) The method according to claim 22, wherein the image detection unit comprises a stereo camera.

29. (New) The method according to claim 23, wherein the image detection unit comprises a stereo camera.

30. (New) The method according to claim 24, wherein the image detection unit comprises a stereo camera.